



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,296	08/31/2006	Akio Enomoto	129280	9195
27049 7590 03/17/2010 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
RIVERA, JOSHEL				
ART UNIT		PAPER NUMBER		
1791				
NOTIFICATION DATE		DELIVERY MODE		
03/17/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction27049@oliff.com
jarnstrong@oliff.com

Office Action Summary

Application No.

10/591,296

Applicant(s)

ENOMOTO ET AL.

Examiner

JOSHUA RIVERA

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-11 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Since claim 1 states that the laser oscillator is used to cut the tape bonded on to the end surface of the honeycomb to obtain a structure with a tape of a predetermined size along the outer peripheral shape, it is unclear how claim 10, which states the same limitation, is further limiting claim 1.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession

of the claimed invention. On page 19 of the Specification in lines 7 - 20, Applicant states that the angle of view of the laser oscillation unit be the same as the image pick up unit. This was presented in the original claim 5 where the Examiner rejected the claim because there was no indication of point of reference. Applicant amended the claim stating that the angle of view is with respect to the end surface of the honeycomb structure. There is no support for this limitation since, as shown in Figure 1 (b), the image pick up unit (item 5) has an angle of view with respect to the end surface of the honeycomb (item 6) equal to 90° while the laser oscillation unit (item 2) has an angle of view with respect to the end surface of the honeycomb (item 6) equal to 0°. The only way for the image pick up unit to view the end surface is by viewing the image reflected on the mirror (item 4), where the angle of view of the image pick-up unit with respect to the mirror is equal to 0°.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 4 – 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitations "the predetermined size" and "the outer peripheral shape" in line 10 and "the image" in line 19 of the claim. There is insufficient antecedent

basis for this limitation in the claim. Claims 4 – 11 are also rejected based on their dependency to claim 1.

7. Claim 5 recites the limitation "the image-pick means" in line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1, 4, 5 and 7 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta et al. (US Patent 6,811,737) in view of Onodera et al. (Japanese Patent 09-085481) and Bonzo (US Patent 4,557,773).

11. With regards to claims 1 and 10, Fukuta teaches a method where the image of a honeycomb body is picked up by a camera and the image is processed by an image processing method to detect the position of all the cells at the end surface, then a sheet is adhered to the end surface of the of the honeycomb, which intrinsically this needs to be done with a tape bonder, and finally a laser is used to pierce the sheet (column 3 lines 37 – 56). Since the laser of Fukuta is used to pierce the tape that covers the honeycomb structure in a pattern (column 3 lines 48 – 56), the laser is capable of cutting the tape in the outer periphery.

12. It would have been obvious to one of ordinary skills in the art at the time of the invention to use the laser to cut the tape along the outer periphery of the end surface. The rationale to do so would have been that since the laser is capable of cutting the tape one would program a pattern that would include both piercing holes in the tape and cut the tape at the outer periphery. This would save money on equipment since there wouldn't be a need to have a laser beam station plus a cutting station.

13. Fukuta fails to explicitly disclose a moving type or tilt type mirror capable of reflecting the end surface of the honeycomb structural body onto the same axis as the laser oscillation.

14. Onodera teaches of a laser machining head that contains an image pick up unit (camera) and a movable mirror that reflects the image of the surface of the work to the camera and is fixed at the optical axis of the laser beam (Abstract).

15. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Onodera's laser head in an apparatus that performs Fukuta's method. The rationale to do so would have been that, as stated by Onodera, this configuration reduces space and the energy loss by the laser (Abstract).

16. Fukuta and Onodera fail to explicitly disclose using a moving means capable of gripping and moving the honeycomb structural body.

17. Bonzo teaches positioning and lifting the honeycomb structure to the film bonding apparatus (column 15 lines 49 – 57). Intrinsically the structure needs to be gripped while being moved or it will fall from the film bonding apparatus or the bonding tape would be laid on the incorrect surface.

18. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Bonzo's moving means in Fukuta and Onodera's apparatus. The rationale to do so would have been that it would be necessary to have a device that could transport various honeycomb structures to the tape bonding station in order to increase production. Additionally Bonzo states that the structure is moved into position so as not to interfere with the operation of the apparatus (column 15 lines 53 – 55). Gripping would be necessary in order to accurately place the tape on the end surface of the honeycomb structure and not to let the structure fall while being moved.

19. With regards to claim 4, the teachings of Fukuta, Onodera and Bonzo are presented above. Claim 4 contains an optional statement which describes that the invention is able to do the bonding process continuously, hence is not a requirement for the apparatus to do this. Specifically, term "can be" is viewed as ability and not that the action is actually performed.

20. yWith regards to claim 5, the teachings of Fukuta, Onodera and Bonzo are presented above. Additionally it can be seen in Figure 6 of Onodera that the angle of view of the laser (item 1) and the image pick-up unit (item 33) is the same with respect to the end surface of the work (item W).

21. With regards to claim 7, the teachings of Fukuta, Onodera and Bonzo are presented above. Additionally, Onodera explicitly discloses that the laser used is a YAG laser (paragraph 16).

22. With regards to claim 8, the teachings of Fukuta, Onodera and Bonzo era are presented above. Additionally Onodera explicitly discloses that the camera is a CCD camera (Abstract).

23. With regards to claim 9, the teachings of Fukuta, Onodera and Bonzo are presented above. Fukuta and Onodera fail to explicitly disclose that the tape bonder bonds a tape wound in a roll state onto the end surface of the honeycomb structure.

24. Bonzo teaches the use of an apparatus for applying a length of tape, film or web to the end face of a honeycomb structure (column 15 lines 33 – 36), where the tape is in a wound state (Figure 14 item 112).

25. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Bonzo's tape bonding means to bond a wound up tape in Fukuta and Onodera's apparatus. The rationale to do so would have been that by using a web of tape production would increase since the bonding process would be continuous.

26. With regards to claim 11, the teachings of Fukuta, Onodera and Bonzo are presented above. Fukuta explicitly states that the laser is used to pierce the tape in order to create holes at predetermined positions (column 3 lines 48 – 56).

27. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta et al. (US Patent 6,811,737) in view of Onodera et al. (Japanese Patent 09-085481) and Bonzo (US Patent 4,557,773) as applied to claims 1, 4, 5 and 7 – 11 above, and further in view of Kanehara et al. (Japanese Patent 01-233083).

28. With regards to claim 6, the teachings of Fukuta, Onodera and Bonzo are presented above. Fukuta, Onodera and Bonzo fail to explicitly disclose using a correction means for correcting the distortion in the laser and segmenting the image obtained from the image pick up unit.

29. Kanehara teaches using a position correcting device for laser beam machining (Title of the patent) that receives an image from the work surface and displays it segmented in a monitor (Abstract, Figure 1 item 15 being the monitor and it can be seen that the image in the monitor is being segmented by the crossing lines 19).

30. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Kanehara's correction device in Fukuta and Onodera's apparatus. The

rationale to do so would have been that, as stated by Kanehara, this device is capable of correcting with high accuracy the dislocation between the laser and the machining line (Abstract).

Response to Arguments

31. Applicant's arguments filed December 24, 2009 have been fully considered but they are not persuasive.

32. Applicant has not provided with any argument as to why Applicant's invention is unique and it wouldn't be obvious over the combination of the prior art of Fukuta and Onodera. Fukuta teaches a method where the image of a honeycomb body is picked up by a camera and the image is processed by an image processing method to detect the position of all the cells at the end surface, then a sheet is adhered to the end surface of the of the honeycomb and finally a laser is used to pierce the sheet based on the information obtained from the image processing unit (column 3 lines 37 – 56), while Onodera teaches a laser oscillator with a CCD camera and tilting mirrors (Abstract). One of ordinary skills in the art knows that a laser is capable of cutting if it is capable of piercing.

33. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. They also do not comply with 37 CFR 1.111(c) because they do not clearly

point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA RIVERA whose telephone number is (571)

270-7655. The examiner can normally be reached on Monday - Thursday 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katarzyna Wyrozebski can be reached on (571) 272-1127. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. R./
Examiner, Art Unit 1791

/KAT WYROZEBSKI/
Supervisory Patent Examiner, Art Unit 1791